National Institute of Environmental Health Sciences

Estimating costs of adaptation to climate change

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Abstract:

In 2009 the World Bank launched the Economics of Adaptation to Climate Change (EACC) study to provide up-to-date and consistent estimates of adaptation costs for developing countries. The EACC study addresses many of the shortcomings found in the adaptation cost literature. First, it defines 'adaptation costs' as those additional costs of development due to climate change, thereby avoiding confounding the costs of closing the development deficit and the implicit adaptation deficit. Second, the study covers eight major sectors: infrastructure, coastal zones, water supply, agriculture, fisheries, forests and ecosystems, human health, and extreme weather events. Third, it employs common population and GDP growth trajectories across sectors and uses two climate scenarios to capture the full spread of model predictions. Finally, the EACC study uses an innovative methodology for aggregating costs at the sector level within a country, and across countries. Under these assumptions, the global price tag for the developing world of adapting to an approximately 2 degrees C warmer world by 2050 is US$70-100 billion per year for 2010-2050.

Source: http://dx.doi.org/10.1080/14693062.2011.582387

Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES), Other Climate Scenario

Special Report on Emissions Scenarios (SRES) Scenario: SRES A2

Other Climate Scenario: CSIRO; NCAR

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Food/Water Security, Food/Water Security, Precipitation, Sea Level Rise, Temperature

Extreme Weather Event: Flooding, Hurricanes/Cyclones

Food/Water Security: Agricultural Productivity, Fisheries, Nutritional Quality

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

Ocean/Coastal, Other Geographical Feature

Other Geographical Feature : Forests

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease, Injury, Morbidity/Mortality

Infectious Disease: Foodborne/Waterborne Disease, Vectorborne Disease

Foodborne/Waterborne Disease: Other Diarrheal Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Malaria

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Cost/Economic, Exposure Change Prediction

Resource Type: ☑

format or standard characteristic of resource

Review

Resilience: ☑

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: ☑

time period studied

Medium-Term (10-50 years)

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content